



This manual contains important
warnings and information.
READ AND KEEP FOR REFERENCE.

INSTRUCTIONS

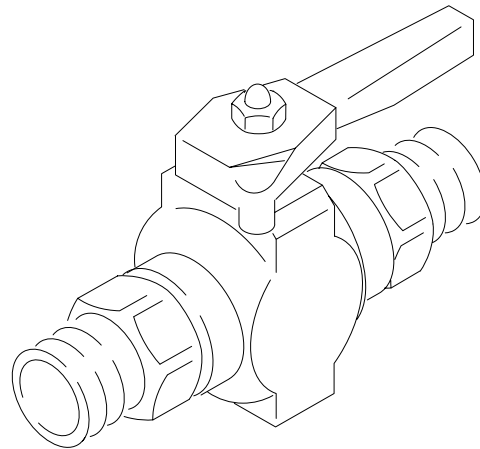
HIGH PRESSURE FLUID LINE

Ball Valves

5000 psi (350 bar) Maximum Working Pressure

Model 224-449, Series B

1/4 npt(mbe)



Warning Symbol



This symbol alerts you to the possibility of serious injury or death if you do not follow the instructions.

Caution Symbol



This symbol alerts you to the possibility of damage to or destruction of equipment if you do not follow the instructions.

 WARNING

 INSTRUCTIONS	EQUIPMENT MISUSE HAZARD Equipment misuse can cause the equipment to rupture or malfunction and result in serious injury. • This equipment is for professional use only. • Read all instruction manuals, tags, and labels before operating the equipment. • Use the equipment only for its intended purpose. If you are not sure, call Graco Technical Assistance at 1-800-543-0339. • Do not alter or modify this equipment. • Check equipment daily. Repair or replace worn or damaged parts immediately. Do not repair high pressure couplings; you must replace the entire hose. • Do not exceed the maximum working pressure of the lowest rated component in your system. Check the charts on pages 2 and 3 for the <i>Maximum Working Pressures</i> of specific valves and swivels. • Use fluids and solvents which are compatible with the equipment wetted parts. Refer to the Technical Data section of all equipment manuals. Read the fluid and solvent manufacturer's warnings. • Comply with all applicable local, state, and national fire, electrical, and safety regulations.
	INJECTION HAZARD Spray from leaks or ruptured components can inject fluid into your body and cause extremely serious injury, including the need for amputation. Fluid splashed in the eyes or on the skin can also cause serious injury. • Fluid injected into the skin might look like just a cut, but it is a serious injury. Get immediate medical attention. • Keep hands away from the end of the drain valve when opening it. • Do not stop or deflect leaks with your hand, body, glove or rag. • Follow the Pressure Relief Procedure on page 3, before cleaning, checking or servicing the equipment. • Tighten all fluid connections before operating the equipment. • Fluid hoses must have spring guards on both ends, to help protect them from rupture caused by kinks or bends near the couplings.

Pressure Relief Procedure

WARNING



INJECTION HAZARD

The system pressure must be manually relieved to prevent the system from starting or spraying accidentally. Fluid under high pressure can be injected through the skin and cause serious injury. To reduce the risk of an injury from injection, splashing fluid, or moving parts, follow the **Pressure Relief Procedure** whenever you:

- are instructed to relieve the pressure,
- stop dispensing,
- check or service any of the system equipment,
- or install or clean dispensing devices.

USE

This valve is a one-way valve to be used for relieving fluid pressure in spray systems. To open the valve, turn the lever parallel to the valve housing. To fully stop fluid flow through the valve, turn the lever 90° to the valve housing.

SERVICE

Follow the **Pressure Relief Procedure**, above. Remove the valve from the line and disassemble it. Clean the parts and inspect them for wear or damage. Replace parts as needed.

CAUTION

Do not wash Viton® o-rings in ketone thinners as these thinners cause the o-rings to deteriorate.

Lubricate the o-ring seals and threaded parts with lithium-base lubricant. Assemble the valve in the reverse order of disassembly. When installing the lever on the valve, make sure the hole in the ball is aligned with the direction of the lever.

Parts List

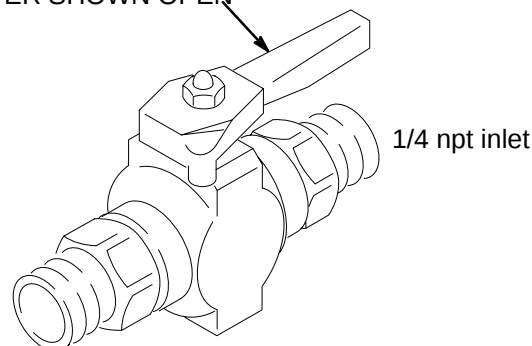
Ref No.	Part No.	Description	Qty
1	102-310*	NUT, hex, nylon cap, No. 10-32	1
2	110-242**	SEAL, o-ring, Viton®	1
3	110-241**	SEAL, o-ring, Viton®	2
4	164-900**	WASHER, flat, plastic	2
5	178-746**	BALL, valve	1
6	165-274	STUD, valve, 1/4 npt(m)	2
7	165-964*	NUT, packing	1
8	178-745*	STEM, valve	1
9	172-094**	SEAT, ball, plastic	2
10	178-747	LEVER, valve	1
11	178-743	HOUSING, valve	1

*Recommended spare parts to keep on hand.

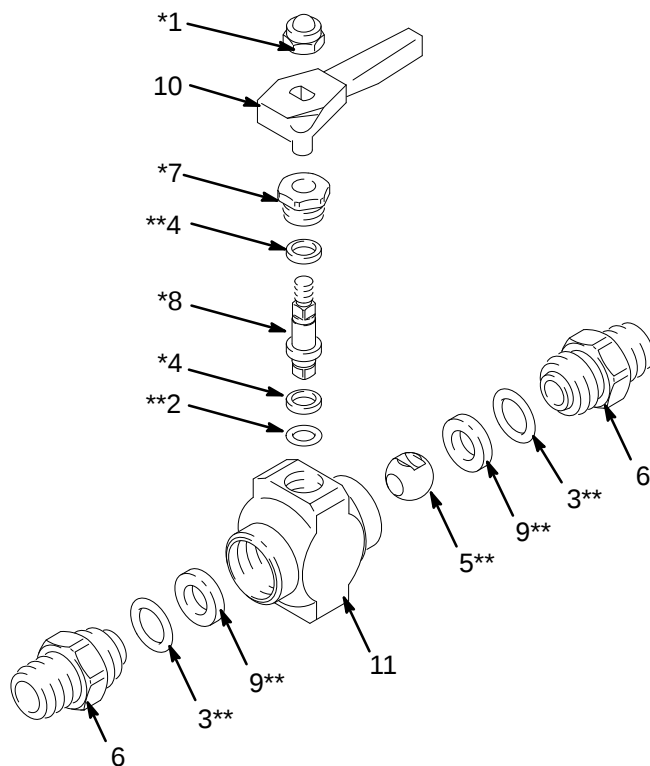
**Included in Repair Kit 217-559.

To convert to Teflon® seals, order Repair Kit 217-560.

LEVER SHOWN OPEN



1/4 npt outlet



Manual Change Summary

Update of manual was a series change of the model 224-449 from A to B. Other general format changes were made with this update.

The Graco Warranty and Disclaimers

WARRANTY

Graco warrants all equipment manufactured by it and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized Graco distributor to the original purchaser for use. As purchaser's sole remedy for breach of this warranty, Graco will, for a period of twelve months from the date of sale, repair or replace any part of the equipment proven defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with Graco's written recommendations.

This warranty does not cover, and Graco shall not be liable for, any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-Graco component parts. Nor shall Graco be liable for malfunction, damage or wear caused by the incompatibility with Graco equipment of structures, accessories, equipment or materials not supplied by Graco, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by Graco.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized Graco distributor for verification of the claim. If the claimed defect is verified, Graco will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor and transportation.

DISCLAIMERS AND LIMITATIONS

The terms of this warranty constitute purchaser's sole and exclusive remedy and are in lieu of any other warranties (express or implied), **including warranty of merchantability or warranty of fitness for a particular purpose**, and of any non-contractual liabilities, including product liabilities, based on negligence or strict liability. Every form of liability for direct, special or consequential damages or loss is expressly excluded and denied. In no case shall Graco's liability exceed the amount of the purchase price. Any action for breach of warranty must be brought within two (2) years of the date of sale.

EQUIPMENT NOT COVERED BY GRACO WARRANTY

Graco makes no warranty, and disclaims all implied **warranties of merchantability and fitness for a particular purpose**, with respect to accessories, equipment, materials, or components sold but not manufactured by Graco. These items sold, but not manufactured by Graco (such as electric motor, switches, hose, etc.) are subject to the warranty, if any, of their manufacturer. Graco will provide purchaser with reasonable assistance in making any claim for breach of these warranties.

Graco Phone Numbers

FOR TECHNICAL ASSISTANCE, service repair information or assistance regarding the application of Graco equipment: **1-800-543-0339 Toll Free**

TO PLACE AN ORDER, contact your Graco distributor, or call this number to identify the distributor closest to you: **1-800-367-4023 Toll Free**

Sales Offices: Atlanta, Chicago, Detroit, Los Angeles
Foreign Offices: Belgium, Canada, England, Korea, Switzerland, France, Germany, Hong Kong, Japan

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